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EXAMINER	
HAROON, ADEEL	

ART UNIT	PAPER NUMBER
2618	

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/734,603	BARGROFF ET AL.	
	Examiner	Art Unit	
	Adeel Haroon	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-51 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-51 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-20, and 33-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Green et al. (U.S. 5,073,930).

With respect to claim 1, Green et al. disclose a method of distributing signals in a satellite-based signal distribution system (Column 1, lines 8-10). Green et al. disclose receiving signals from a first satellite transponder group and block converting the signals to an intermediate frequency (Column 13, lines 3-32). Green et al. also disclose adjusting a power of the signals in a variable gain amplifier, element number 236, in an integrated circuit by detecting an output power of the variable gain amplifier with a detector, element number 242, in the integrated circuit and adjusting a gain of the variable gain amplifier, in part, based on a result of detecting the output power (Column 13, lines 34-60).

With respect to claim 2, Green et al. teach connecting an output of the variable gain amplifier to an in-line signal path to the double balanced mixer and connecting an output to a cascade signal path to the AGC amp in figure 3.

With respect to claim 3, Green et al. disclose amplifying the signals in the variable gain amplifier (Column 13, lines 34-37).

With respect to claim 4, Green et al. disclose attenuating the signals in the variable gain amplifier (Column 13, lines 50-53).

With respect to claims 5-7, Green et al. teach selectively amplifying or attenuating the signals according the output power in order to maintain a constant signal level (Column 13, lines 34-37 and 50-53).

With respect to claim 8, Green et al. teach routing an output signal from the variable gain amplifier to one of a plurality of outputs, AGC amp or mixer, of a crosspoint switch in figure 3.

With respect to claim 9, Green et al. disclose band translating an output signal from the amplifier to a frequency band (Column 13, lines 61-63).

With respect to claim 10, Green et al. disclose a signal distribution device (Column 1, lines 8-10). Green et al. disclose a variable gain amplifier, element number 236, on an integrated circuit substrate, the variable gain amplifier having an input, an output, and a control input (Column 3, lines 34-37). Green et al. teach selectively amplifying or attenuating a signal received at the centralized signal input based, at least in part, on a control signal at the control input of the variable gain amplifier (Column 3, lines 50-55). Green et al. also disclose a power detector, element number 242, having

an input connected to the output of the variable gain amplifier and an output connected to the control input of the variable gain amplifier and configured to provide a detected output based in part on an output power of the variable gain amplifier as the control signal (Column 3, lines 55-60). Green et al. further disclose a signal processing device, element number 204, having an input of the signal processing device coupled to the output of the variable gain amplifier, an output of the signal processing device coupled to a first output of the signal distribution device (Column 13, lines 61-63).

With respect to claims 11 and 12, Green et al. show the variable gain amplifier including a cascade output to AGC amp and another output to the mixer connected to the output of the signal distribution device in figure 3 (Column 13, lines 55-60).

With respect to claim 13, Green et al. further disclose a band translation device, element number 204, in the signal processing device (Column 13, lines 61-63).

With respect to claim 14, Green et al. disclose a crosspoint switch between 240 and the AGC amp and mixer in figure 3.

With respect to claims 15-18, Green et al. disclose that the signal can be satellite/cable/terrestrial television signal (Column 1, lines 8-10).

With respect to claims 19 and 20, Green et al. further disclose a telephone signal at a centralized signal input (Column 21, lines 34-37).

With respect to claim 33, Green et al. disclose a method of distributing signals in a satellite-based signal distribution system (Column 1, lines 8-10). Green et al. disclose receiving signals from a first satellite transponder group (Column 13, lines 3-32). Green et al. also disclose adjusting a power of the signals in a variable gain amplifier, element

number 236, in an integrated circuit and adjusting a gain of the variable gain amplifier, (Column 13, lines 34-60).

With respect to claim 34, Green et al. disclose adjusting the power of the signals in the AGC amplifier by adjusting the power of the signals in an output referred AGC amplifier (Column 3, lines 34-60).

With respect to claims 35 and 36, Green et al. teach connecting an output of the variable gain amplifier to an in-line signal path to the double balanced mixer and connecting an output to a cascade signal path to the AGC amp in figure 3.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 21-23, 25-26, 37-45, and 47-51 are rejected under 35 U.S.C. 102(a) as being anticipated by Muterspaugh (U.S. 6,434,374).

With respect to claim 21, Muterspaugh discloses a method of distributing signals in a signal distribution system (Column 1, lines 6-9). Muterspaugh discloses receiving a signal group from the plurality of band stacked signal groups and adjusting a power of the signal group in a variable gain amplifier, element number 106, in an integrated circuit in figure 1 (Column 3, lines 21-34). Muterspaugh also discloses detecting an

output power of the variable gain amplifier with a detector, element number 132, in the integrated circuit (Column 4, lines 46-47) and adjusting a gain of the variable gain amplifier with element number 134based, at least in part, on a result of detecting the output power (Column 4, lines 44-58). Muterspaugh further discloses distributing an output signal from the variable gain amplifier to a destination device (Column 4, lines 13-22).

With respect to claims 22 and 23, Muterspaugh discloses detecting the output power of the variable gain amplifier, which comprises both frequency band broader and narrower than the frequency band of the signal group (Column 4, lines 44-58).

With respect to claims 25 and 26, Muterspaugh discloses adjusting a positive and negative gain of the amplifier (Column 4, lines 55-67).

With respect to claim 37, Muterspaugh discloses signal distribution device in a signal distribution system (Column 1, lines 6-9). Muterspaugh discloses an output referred Automatic Gain Control (AGC) amplifier, element number 106, having an input, an output, and a control input, and configured to provide a signal gain based, at least in part, on a control signal at the control input of the AGC amplifier (Column 3, lines 43-62). Muterspaugh further discloses a signal processing device having an input of the signal processing device coupled to the output of the AGC amplifier, an output of the signal processing device coupled to a first output of the signal distribution device (Column 3, line 63 – Column 4, line 12).

With respect to claims 38 and 39, Muterspaugh discloses adjusting a positive gain and attenuation of the amplifier (Column 4, lines 55-67).

With respect to claims 40-42, Muterspaugh discloses a variable gain amplifier, element number 106, having a gain control input coupled to the control input of the AGC amplifier (Column 4, lines 55-67). Muterspaugh further discloses a detector, element number 132, to sample to signal after the output of the variable gain amplifier/signal-processing device (Column 4, lines 31-43).

With respect to claims 43-45, Muterspaugh discloses adjusting the gain/attenuation of the amplifier based on a setpoint (Column 4, lines 55-67).

With respect to claim 47, Muterspaugh discloses a semiconductor substrate, which the device is manufactured with a cascade output coupled to the output of the AGC amplifier (Column 3, lines 56-62).

With respect to claim 48, Muterspaugh discloses an amplifier, element number 116; a filter, element number 108; and a band translation device, element number 110 (Column 3, line 63 – Column 4, line 12).

With respect to claim 49, Muterspaugh discloses an antenna, element number 102 (Column 3, lines 24-33).

With respect to claim 50, Muterspaugh discloses a band translation device, element number 110 (Column 3, line 63 – Column 4, line 12).

With respect to claim 51, Muterspaugh discloses a Low Noise Block Converter (Column 3, lines 21-33).

5. Claims 27-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Sklar et al. (U.S. 5,220,419).

With respect to claim 27, Sklar et al. disclose a signal distribution device in figure 1. Sklar et al. disclose a first variable gain amplifier, 14, on a first integrated circuit substrate, the first variable gain amplifier having an input, an in-line output, a cascade output, and a control input, and configured to have a gain based, at least in part, on a control signal at the control input of the first variable gain amplifier (Column 2, lines 38-49). Sklar et al. disclose a first power detector, 50, on the first integrated circuit substrate, the first power detector having an input connected to the output of the first variable gain amplifier and an output connected to the control input of the first variable gain amplifier and configured to provide, as the control signal to the first variable gain amplifier, a detected output based on an output power of the first variable gain amplifier (Column 3, lines 1-44). Sklar et al. also disclose a second variable gain amplifier, 24, on a second integrated circuit substrate, the second variable gain amplifier having an input connected to the cascade output of the first variable gain amplifier, an in-line output, a cascade output, and a control input, and configured to have a gain based, at least in part, on a control signal at the control input of the second variable gain amplifier (Column 2, lines 49-52). Sklar et al. further disclose a second power detector, 52, on the second integrated circuit substrate, the second power detector having an input connected to the output of the second variable gain amplifier and an output connected to the control input of the second variable gain amplifier and configured to provide, as the control signal to the second variable gain amplifier, a detected output based on an output power of the second variable gain amplifier (Column 3, lines 1-44).

With respect to claims 28 and 29, Sklar et al. disclose that the in-line outputs, 20 and 32, of the two amplifiers are connected to the first and second of the multiple destination devices respectively (Column 2, lines 46-47).

With respect to claims 30-32, Sklar et al. disclose the gain of the first variable gain amplifier is either a positive of negative gain, which is proportional to the control signal (Column 3, lines 30-35).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muterspaugh (U.S. 6,434,374).

With respect to claim 24, the method of Muterspaugh is described above in the discussion of claim 21. Muterspaugh's signal groups have different frequency ranges than as recited (Column 3, lines 34-42). However, it would have been obvious to one of ordinary skill in the art to use the frequency ranges recited in the claim in order to operate on a certain system using these frequency ranges.

8. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muterspaugh (U.S. 6,434,374) in view of Ammar (2004/0203337).

With respect to claim 46, the device of Muterspaugh is described above in the discussion of claim 37. Muterspaugh does not disclose sampling the signal at the input of the variable gain amplifier. However, Ammar discloses a signal distribution device that adjusts the received signal. Ammar discloses a variable gain amplifier, element number 67, having a gain control input coupled to a detector, element number 69, which samples the signal at the input of the variable gain amplifier (Paragraphs 45-46). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention, to apply Ammar's sampling technique in the device of Muterspaugh in order to adjust the gain according to the input signal.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ciccarelli et al. (6,498,926) disclose an automatic gain control system with amplifiers cascaded.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adeel Haroon whose telephone number is (571) 272-

7405. The examiner can normally be reached on Monday thru Friday, 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AH
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4/3/2006

NGUYEN T. VO
PRIMARY EXAMINER